



UPPER YELLOWSTONE RIVER DRAINAGE

PHYSICAL DESCRIPTION

The Upper Yellowstone River flows for more than 180 miles from the Montana/Wyoming border to the mouth of the Clarks Fork of the Yellowstone, through Park, Sweet Grass, Stillwater and Yellowstone counties. This section of river, referred to here as the Upper Yellowstone Drainage, supports a quality coldwater fishery in relatively unaltered habitat. The Upper Yellowstone is free flowing, with no dams or river-wide diversion structures present. Most of the river flows through range and crop land traditionally managed for agriculture, but faced with increasing pressure from residential development. Towns and cities along this reach of the Yellowstone include Gardiner, Livingston, Big Timber, Columbus, and Laurel. Significant recreational river use also comes from the population centers of Bozeman and Billings.

Several large tributaries flow into the Upper Yellowstone River, including the Shields, Boulder, Stillwater and Clarks Fork. Numerous smaller, coldwater tributaries flow into the river upstream from Livingston, while a mix of coldwater streams draining from nearby mountains (Bridgers, Bangtails, Gallatins, Crazies, Absarokas, and Beartooths), and warmer water prairie streams enter the Yellowstone between Livingston and Laurel. In total, there are approximately 3,200 miles of fish-bearing stream occurring within 433 streams within the drainage. Additionally, there are 524 lakes, totaling 10,516 surface acres.

FISHERIES MANAGEMENT

The upper Yellowstone River drainage supports a very popular, high quality trout fishery throughout its length. In addition to the fishery of the mainstem Yellowstone, many of the tributaries provide high quality trout fisheries. Above Livingston, the Upper Yellowstone provides a popular sport fishery for rainbow trout, brown trout and Yellowstone cutthroat trout. The tributaries support Yellowstone cutthroat, rainbow, brown and brook trout fisheries as well. Downstream from Livingston, the mainstem and tributaries of the Yellowstone support high quality fisheries for brown and rainbow trout, but Yellowstone cutthroat trout numbers decline moving downstream, and only the occasional cutthroat is caught below Big Timber. Other fish species in the Upper Yellowstone include mountain whitefish and several species of nongame fish, both native and nonnative.

Angling in the Upper Yellowstone River and all major tributaries but the Shields is open year round, but is limited by cold weather and ice in winter and high stream flows during runoff and associated turbid water. Angling on smaller streams is restricted to the period from the 3rd Saturday in May through November 30.

All flowing waters in this drainage that support self-sustaining trout populations are managed as wild trout fisheries, emphasizing habitat protection and natural reproduction. Tributary streams and their connectivity with the Yellowstone are critical for reproduction, as many of the tributaries contain much higher quality spawning habitat than does the Yellowstone River. This connectivity is particularly important for Yellowstone cutthroat trout because their spawning use

of the main stem of the river is limited. Fishing regulations are tailored to protect trout fisheries and satisfy angler demand.

Several lowland lakes and reservoirs, and hundreds of high mountain lakes are part of the Upper Yellowstone Drainage. Two of the lowland lakes, Cooney Reservoir and Dailey Lake, are managed for balanced walleye/trout fisheries via stocking, fishing regulations and other strategies. Dailey Lake is managed for a perch fishery as well. The high mountain lakes are managed to provide maximum angler benefit while minimizing impacts to forest lands and Wilderness, promoting native Yellowstone cutthroat trout restoration, and creating opportunities to catch rare and unique fish species. Fish species in the mountain lakes include Yellowstone cutthroat, rainbow, brook and golden trout, as well as Arctic grayling. Yellowstone cutthroat trout, golden trout and Arctic grayling are stocked in selected mountain lakes on a regular basis. Two mountain lakes, Goose Lake and Sylvan Lake, are brood sources for Yellowstone cutthroat and golden trout that are stocked throughout the state. An important objective of mountain lakes management is to avoid conflicting or compromising fisheries management in streams downstream of the lakes in the same drainage.

Restoration of native Yellowstone cutthroat trout has been a priority in the Upper Yellowstone Drainage. The species has been severely diminished in population size and distribution during human development, and is limited to the upper end of the Yellowstone River and tributaries (above Springdale), and the headwaters of tributaries to the Yellowstone downstream from Springdale. Strategies to protect and restore Yellowstone cutthroat trout populations include maintaining connectivity with spawning tributaries and limiting angler harvest in the upper end of the drainage, and isolating the species using passage barriers to protect it from nonnative trout in tributaries to the lower end of this reach. Several projects in recent years have included building fish passage barriers, chemically removing nonnative trout from above the barriers, and reintroducing cutthroat trout in these streams. These strategies have been successful for recovering several cutthroat trout populations. These new populations have been managed as sport fish: all cutthroat trout in tributaries to the Yellowstone downstream from Springdale are part of an angler's daily trout limit. This regulation strategy has helped build public support for cutthroat trout restoration projects. The long-term goal for cutthroat conservation in the Upper Yellowstone (above Springdale) is to have 20% of the historically occupied habitat restored to cutthroat trout. In the Shields River, upstream from Chadbourn Diversion, the long-term goal for Yellowstone cutthroat trout conservation is to have 100% of the historically occupied habitat restored with secure conservation populations of Yellowstone cutthroat trout.

HABITAT

Although it is the longest undammed river in the contiguous United States and much of the river remains unaltered, significant habitat changes have impacted the Upper Yellowstone River since human settlement. Notable historic development along the Yellowstone River corridor includes the construction of a major railroad, as well as numerous roads to accommodate vehicle travel, including county roads, state highways and more recently a federal interstate highway. All of these developments have, in some way, impacted the river's ability to migrate laterally and interact with its historic floodplain. Using angular rock or concrete rip rap to protect roads, bridges, homes, and farmland or ranchland has restricted the natural expression of the river, and possibly the quality of fish habitat in the river. Significant development is ongoing and may

accelerate along the Yellowstone, particularly in the form of residential housing, which may further impact habitat.

An adequate quantity of cool, oxygenated water is necessary for survival and growth of trout in the upper Yellowstone River. The Yellowstone, Shields, Stillwater and Boulder rivers are all considered priority waters under FWP's drought policy and face potential fishing closures during severe drought conditions that can occur in late summer. In addition to these waters, Rock Creek and the Clarks Fork of the Yellowstone are both severely dewatered from irrigation in specific areas on certain years. Trout populations in these waters can be expected to fluctuate over the years in response to water availability. Other small tributaries in the drainage can also be impacted by irrigation withdrawals.

The operation of irrigation diversions and ditches in the Upper Yellowstone Drainage leads to the entrainment of hundreds of thousands, if not millions of fish each year. Many of these fish are returned or are able to swim back to the stream when ditches are shut down, but many others become stranded and die. Fish screens are uncommon in the area due to their high cost and need for maintenance, troubles with functionality, and overall lack of acceptance by the ranching community. Other alternatives to fish screens are being explored.

Numerous irrigation diversions in the Clarks Fork of the Yellowstone serve as barriers to upstream passage of certain fish species, particularly burbot. Lack of fish passage and low water appear to have impacted the burbot population in the Clarks Fork.

Overall, water quality is good in the upper Yellowstone. Whirling disease has been confirmed in rainbow and Yellowstone cutthroat trout in the middle portion of the drainage, but has not been found in the lower end, despite intensive testing.

FISHING ACCESS

Almost 30 FASs are located on the Yellowstone River between Gardiner and Laurel. The majority of these sites are concentrated on the upper end of the river, where angler use is highest. There are also several additional sites available to the public that are not under FWP ownership or management. The area of the upper Yellowstone most lacking in fishing access is the reach between Columbus and Park City, approximately 20 river miles long. This reach has been a top priority for future access sites.

The Stillwater River has nine fishing access sites and supports very high recreational use, including commercial rafting operations, numerous angling and recreational floaters, bankangling, and camping. Only two FASs exist on the Boulder River, despite the river boasting a very high quality fishery. Much of the upper Boulder River flows through Forest Service land where there are a number of developed campgrounds and good public access. Four access sites are located on Rock Creek, but these are all grouped in a small area between Red Lodge and Roberts. Only one walk-in fishing access site exists on the Shields River.

East Rosebud Creek, West Rosebud Creek, Big Timber Creek, Sweet Grass Creek and other smaller streams have desirable fisheries but public access is primarily limited to county road crossings and a small number of public sites. Stream access via private land is becoming more difficult and therefore it will be critical to secure public access in these areas.

SPECIAL MANAGEMENT ISSUES

Though angling use appears to be stable over the past decade or so, there has been a marked increase in the use of jet boats and rafts on the Yellowstone, and rafts on the Stillwater. In addition, angling pressure on the Yellowstone appears to be shifting downstream, with anglers from Bozeman and Livingston travelling greater distances to avoid crowds. Some concern has been raised over outfitters and guides who are not locally based beginning to operate farther downstream on the Yellowstone Stillwater rivers. Though overall use in the lower end of this reach of the Yellowstone drainage is relatively low, the apparent upward trend could become a management issue in the future.

FISHERIES MANAGEMENT DIRECTION FOR THE UPPER YELLOWSTONE RIVER DRAINAGE

Water	Miles/acres	Species	Origin	Management Type	Management Direction
Yellowstone River (YNP to Springdale)	97 miles	Rainbow trout, Brown trout	Wild	Special Regulations	Manage harvest to support quality and sustained angling opportunity. Maintain present numbers and sizes. Consider increasing angler harvest to reduce numbers if necessary to maintain fish growth.
		Yellowstone cutthroat trout	Wild	Special Regulations	Maintain catch and release fishery in order to maintain the current population.
		Mountain whitefish	Wild	General	Maintain current populations.
Habitat needs and activities: Maintain current habitat					
Shields River and Tributaries (Upstream of Chadbourne Diversion)	54 miles in mainstem	Rainbow trout	Wild	Suppression	Remove where possible to prevent hybridization with Yellowstone cutthroat trout.
		Brown trout	Wild	General	Determine level of threat of brown trout to YCT. If needed reduce numbers/prevent invasion where Yellowstone cutthroat trout are potentially impacted.
		Yellowstone cutthroat trout	Wild	Conservation	Maintain catch and release fishery in order to maintain current populations. Implement project to protect and/or expand current populations.
		Mountain whitefish	Wild	General	Maintain current populations.
		Brook trout	Wild	Suppression	Remove where possible to protect Yellowstone cutthroat trout.
Habitat needs and activities: Work to improve stream flow and water temperatures. Work slated to begin during the fall of 2012 to repair the Chadbourne Diversion and ensure that it is a fish barrier. Selective fish passage options are being pursued, but are dependent on negotiations with neighboring landowner.					

Water	Miles/acres	Species	Origin	Management Type	Management Direction
Shields River and Tributaries (Downstream of Chadbourne Diversion)	11 miles in mainstem	Rainbow, Brown trout	Wild	General	Manage harvest to support quality and sustained angling opportunity. Maintain present numbers and sizes. Consider increasing angler harvest to reduce numbers if necessary to maintain fish growth.
		Yellowstone cutthroat trout	Wild	Special Regulations	Maintain catch and release fishery in order to maintain the current population.
		Mountain whitefish	Wild	General	Maintain current populations.
Habitat needs and activities: Work to improve stream flow and water temperatures.					
Yellowstone River Tributaries (YNP to Springdale) Except Shields River	1,058 miles	Rainbow, Brown trout	Wild	General	Reduce numbers/prevent invasion where Yellowstone cutthroat trout are potentially impacted. Maintain sport fishery in other areas.
		Yellowstone cutthroat trout	Wild	Special Regulations	Maintain catch and release fishery in order to maintain the current populations.
		Mountain whitefish	Wild	General	Maintain current populations.
		Brook trout	Wild	General	Reduce numbers/prevent invasion where Yellowstone cutthroat trout are potentially impacted. Maintain sport fishery in other areas.
Habitat needs and activities: Improve habitat (riparian, in-stream, and connectivity) and ensure stream flow in dewatered systems.					
Dailey Lake	206 acres	Yellowstone cutthroat trout, Rainbow trout	Hatchery/ Wild	Put-Grow-Take	Monitor recruitment to spring gill nets and adjust stocking as necessary in order to maintain size and age classes.
		Yellow perch	Wild	General	Monitor size and recruitment to spring gill nets.
		Walleye	Hatchery/ Wild	Put-Grow-Take	Monitor recruitment to spring gill nets and adjust stocking as necessary in order to maintain size and age classes.
Habitat needs and activities: Work to maintain adequate lake elevations and balance trout and warm water fisheries through stocking plans.					

Water	Miles/acres	Species	Origin	Management Type	Management Direction
Yellowstone River (Springdale to Clarks Fork)	95 miles	Rainbow trout, Brown trout	Wild	Special Regulations	Manage harvest to support quality angling opportunity.
		Yellowstone cutthroat trout	Wild	Special Regulations	Maintain catch and release fishery in order to maintain the current population.
		Mountain whitefish	Wild	General	Maintain numbers. Attempt to better monitor population abundance, trends and angler harvest.
		Burbot	Wild	General	Maintain numbers. Learn more about population abundance, distribution and habitat use. Attempt to enhance population and manage for limited harvest.
Habitat needs and activities: Improve habitat to support ecosystem function and fish production.					
Boulder River and Tributaries	65 miles in mainstem and 168 miles in tributaries	Rainbow trout	Wild	Special Regulations	Downstream from Hells Canyon: manage harvest to support high quality angling opportunity. Upstream from Hells Canyon: reduce numbers to benefit Yellowstone cutthroat trout
		Brown trout	Wild	Special Regulations	Manage harvest to support high quality angling opportunity
		Yellowstone cutthroat trout	Wild	General	Allow harvest as part of Combined Trout limit for this drainage. Protect populations via habitat projects and removal of nonnatives where opportunities exist. Consider establishing new populations where opportunities exist. Manage for large, interconnected genetically pure population upstream of waterfall barrier near Hells Canyon.
		Mountain whitefish	Wild	General	Maintain numbers
		Brook trout	Wild	Special Regulations/ Suppression	Reduce numbers/prevent invasion where Yellowstone cutthroat trout are potentially impacted. Manage for sport fishery with opportunity for high levels of harvest in other areas.
Habitat needs and activities: Reduce entrainment of trout in irrigation ditches. Protect existing trout spawning habitat.					

Water	Miles/acres	Species	Origin	Management Type	Management Direction
Stillwater River and Tributaries	70 miles in mainstem and 451 miles in tributaries	Rainbow trout, Brown trout	Wild	Special Regulations	Manage harvest to support high quality angling opportunity. Reduce numbers/prevent invasion where Yellowstone cutthroat trout are potentially impacted
		Yellowstone cutthroat trout	Wild	Special Regulations/ Conservation	Allow harvest as part of Combined Trout limit for this drainage. Protect populations via habitat projects and removal of nonnatives where opportunities exist. Consider establishing new populations where opportunities exist.
		Mountain whitefish	Wild	General	Maintain numbers
		Brook trout	Wild	General/ Suppression	Reduce numbers/prevent invasion where Yellowstone cutthroat trout are potentially impacted. Manage for sport fishery with opportunity for high levels of harvest in other areas.
Habitat needs and activities: Reduce entrainment of trout in irrigation ditches. Protect existing trout spawning habitat.					
	141 miles in mainstem and 229 miles in tributaries	Rainbow trout, Brown trout	Wild	Wild	Manage harvest to support quality angling opportunity
		Yellowstone cutthroat trout	Wild	General	Allow harvest as part of District-wide Combined trout limit. Consider establishing new populations where opportunities exist.
		Mountain whitefish	Wild	General	Maintain numbers. Attempt to better monitor population abundance, trends and angler harvest.
		Brook trout	Wild	General	Manage for sport fishery with opportunity for high level of harvest.
		Burbot	Wild	General	Maintain numbers. Learn more about population abundance, distribution and habitat use.
		Arctic grayling	Wild	General	Maintain numbers. Search for evidence of self-sustaining population in upper tributary reaches.
Habitat needs and activities: Improve fish passage over irrigation diversion dams. Minimize dewatering of lower reaches during drought years. Improve burbot habitat.					

Water	Miles/acres	Species	Origin	Management Type	Management Direction
Rock Creek and Tributaries	59 miles in mainstem and 274 miles in tributaries	Rainbow trout, Brown trout	Wild	Wild	Manage harvest to support high quality angling opportunity. Reduce numbers/prevent invasion where Yellowstone cutthroat trout are potentially impacted
		Yellowstone cutthroat trout	Wild	Conservation	Allow harvest as part of District-wide Combined Trout limit. Protect populations via habitat projects and removal of nonnatives where opportunities exist. Indigenous populations should take top priority. Consider establishing new populations where opportunities exist.
		Brook trout	Wild	General/Suppression	Reduce numbers where Yellowstone cutthroat trout are potentially impacted. Manage for sport fishery in other areas.
Habitat needs and activities: Reduce entrainment of trout in irrigation ditches. Protect existing trout spawning and rearing habitat. Minimize large scale human-caused stream channel alterations. Minimize dewatering of certain stream reaches during drought years.					
Cooney Reservoir	733 acres	Rainbow trout	Hatchery	Put-Grow-Take	Evaluate stocking and harvest regulations to optimize number stocked, size of fish and angler catch rate throughout the year.
		Walleye	Wild/Hatchery	Put-Grow-Take	Continue monitoring to ensure adequate natural reproduction to support fishery. Stock if natural reproduction is inadequate. Maintain balance between walleye numbers and forage base.
		Burbot	Wild	General	Consider adjusting harvest regulations to improve fishery. Manage harvest to support quality angling opportunity and maintain forage base. Continue monitoring population as it continues to become established.
		Brown trout	Wild	Wild/General	Maintain numbers.
		Yellow perch, black crappie	Wild	Wild/General	Maintain numbers. Continue monitoring. Consider habitat improvement projects if increase in numbers is deemed beneficial.
Habitat needs and activities: Explore adding shoreline/shallow water habitat structures to improve survival of forage fish, sport fish and crayfish.					

Water	Miles/acres	Species	Origin	Management Type	Management Direction
Yellowstone River Tributaries (Springdale to Clarks Fork) Except Stillwater, Boulder, Clarks Fork	540 miles	Rainbow, Brown trout	Wild	General	Reduce numbers/prevent invasion where Yellowstone cutthroat trout are potentially impacted. Maintain sport fishery in other areas.
		Yellowstone cutthroat trout	Wild	General	Allow harvest as part of District-wide Combined Trout limit. Protect populations via habitat projects and removal of nonnatives where opportunities exist. Consider establishing new populations where opportunities exist.
		Mountain whitefish	Wild	General	Maintain numbers.
		Brook trout	Wild	General	Reduce numbers/prevent invasion where Yellowstone cutthroat trout are potentially impacted. Manage for sport fishery with opportunity for high levels of harvest in other areas.
Habitat needs and activities: Improve habitat to support ecosystem function and fish production.					
Beartooth/Crazy Mountain Lakes	687 lakes and 9,318 acres	Yellowstone cutthroat trout	Hatchery/ Wild	Put-Grow-Take	Maintain numbers. Monitor self-sustaining lakes to ensure population persistence. Continue stocking lakes currently stocked and managed for quality fish size quality. Adjust stocking rates as needed. Consider stocking in lakes containing rainbow and/or golden trout where genetic swamping would be consistent with YCT populations downstream in the drainage.
		Brook trout	Wild	General	Maintain numbers in most lakes. Reduce densities in lakes where it will benefit individual fish growth. Reduce numbers where YCT populations are potentially threatened.
		Rainbow trout	Wild	General	Reduce numbers and genetic contribution in drainages where YCT restoration is a priority.
		Golden trout	Hatchery/ Wild	Put-Grow-Take	Maintain numbers in most lakes through stocking and natural reproduction. Reduce numbers in areas where priority YCT populations are potentially threatened.
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Water	Miles/acres	Species	Origin	Management Type	Management Direction
		Arctic grayling	Hatchery/ Wild	Put-Grow-Take	Maintain numbers. Explore opportunities to provide angling opportunities in more lakes. Consider planting in lakes that contain other fish species to provide multi-species angling opportunity.
Habitat needs and activities: Explore adding spawning gravel to lakes where natural reproduction is desired.					
All waters	3,200 miles of stream	Nongame species (native and nonnative)	Wild	Conservation	Maintain connected populations, support ecosystem function.